

Transportation of Radioactive Material



Radiation Control Program 2006 Workshop

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New Regulations

- Kansas Radiation Protection Regulations
 - Part 15
 - K.A.R. 28-35-500 through K.A.R. 28-35-505



K.A.R. 28-35-500

- General License for NRC approved packages
- QA Program Approved by NRC



K.A.R. 28-35-501

- Previously approved Type B package
 - Except B(U), B(M), B(U)F, B(M)F
- Any Type AF package
- NRC approved before September 6, 1983



K.A.R. 28-35-502

- Air transport of plutonium
 - Not allowed except if in a medical device designed for one individual



K.A.R. 28-35-503

- Package Opening Instructions available to consignee



K.A.R. 28-35-504

- Advanced notification of shipment
- Governor of each state shipment will enter
- Prior to transport
- In writing



K.A.R. 28-35-505

- Quality Assurance requirements
- Inspection and Maintenance for radiographic device or source changers



K.A.R. 28-35-196a

- Preparation of radioactive material for transport
 - Comply with the U.S. DOT regulations
 - Procedures for opening and closing packages
 - Provide special instructions to consignee



Vehicle Placards

- Standard Placard



- Highway Route Controlled Quantity (HRCQ) Placard



Vehicle Placards

- Standard Placard
- Required when transporting:
 - Packages with Yellow III labels
 - Exclusive use LSA/SCO shipments
 - Highway Route Controlled Quantity

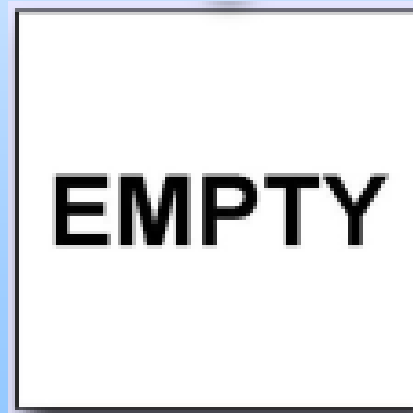


Vehicle Placards

- Highway Route Controlled Quantity Placard (HRCQ)
- High activity
- Type B package
- Yellow III label regardless of radiation level



Package Labels



Package Labels

- Radioactive White I
 - 0.5 mrem/hr max at surface
 - No Transport Index (TI)

TI – the dose rate in mrem/hr at 1 meter from the package surface



Package Labels

- Radioactive Yellow II
 - 50 mrem/hr max at surface
 - Max Transport Index is 1



Package Labels

- Radioactive Yellow III
 - 200 mrem/hr max at surface
 - Max Transport Index is 10



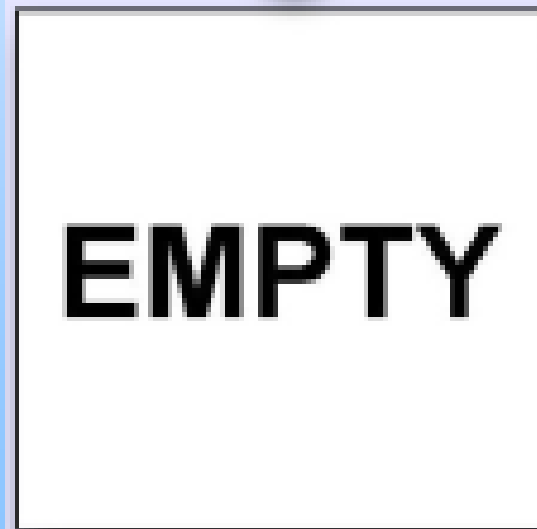
Package Labels

- Radioactive Yellow III
 - 1000 mrem/hr max at surface
 - Max 10 mrem/hr at 2 meters
 - Closed vehicle “Exclusive Use”



Package Labels

- Empty
 - Previously contained radioactive material
 - May contain internal contamination



Shipping Papers

- Must be legibly signed
- Must be immediately accessible to the driver



Shipping Paper Information

- Emergency contact telephone number
- Proper Shipping Name and UN ID
- Name of radionuclides (Cs-137, Tc-99m)



Shipping Paper Information

- Activity per package (MBq, GBq)
- Category of label applied (White I, Yellow II, Yellow III)
- Transport Index (Yellow II, Yellow III)



Shipping Paper Information

- RQ If material is a Reportable Quantity
- Package Type (Type A, Type B)
- Physical and Chemical form (if not special form)



Shipping Paper Information

- FISSILE EXCEPTED or Criticality Safety Index (fissile material only)
- EXCLUSIVE USE (if applicable)
- HRCQ or Highway Route Controlled Quantity (if applicable)



Training Requirements (HAZMAT)

- General awareness
- Function specific
- Safety



Training Requirements (HAZMAT)

- Initial training within 90 days of employment
- Refresher training every 3 years



Questions

